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(54) **UMBILICAL CABLE BONDING TOOL**

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156/583.1, 583.3; 100/211, 212**

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,511,425 A * **4/1985** **Boyd et al.**

156/493

4,529,472 A * **7/1985** **Hsu** **156/498**
5,078,820 A * **1/1992** **Hamamura et al.** **156/267**
5,300,170 A * **4/1994** **Donohoe** **156/235**

* cited by examiner

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(57) **ABSTRACT**

A bonding tool includes an aluminum metal alloy bar member of a predetermined width, the bar having an upper surface, a lower surface, and opposing longitudinal edges. A resilient material is adhesively joined with the bar, the resilient material having an upper surface, a lower surface and opposing longitudinal edges. The joining of the resilient sponge material to the bar is such that an entire upper surface of the sponge material is coextensive with an entire lower surface of the bar member. The bonding tool is made in several, for example five, sections and is laid on a cable for bonding the cable to a capsule or the like in a separate process. The sections are keyed so as to interlock one to another.

24 Claims, 1 Drawing Sheet

